

MeF Processing of Electronic Corporate Income Tax Returns
Assurance of Data
08/01/05

Taxpayer's need assurance that software approved for electronic filing by IRS can accurately format return data into XML and transmit the return data to IRS. They also need assurance that IRS can receive and accurately process the return data. Both IRS and software developers have processes in place to ensure the accuracy of data that is passed electronically between systems.

1. A critical part of the MeF design was the decision to use an XML format for transmitting return data to IRS. Since this was a new endeavor, IRS used a contractor to develop the XML schemas which ensure the return data transmitted to IRS meets IRS specifications and allows IRS to process and view the return data. The following is a brief explanation of how XML schemas are developed and used in MeF processing:
 - a. Each line or data element on every form is given an XML name tag.
 - b. Each attachment is defined and given an XML name tag.
 - c. These Name tags that are defined in XML schemas are provided to software developers.
 - d. Software developers output the data from their tax preparation software into XML formatting, the specified electronic filing format. (Dayna, converts also works here, but this may cause alarm if they would think that the software developers were manipulating any of their data.
 - e. IRS recommends the software developers run their xml schemas through a parser that will validate the xml formatting prior to sending to the IRS.
 - f. IRS validates the transmitted XML file against XML schemas in the MeF test and live production systems.
 - g. MeF programs are tested extensively by inserting test data into every line of every form and attachment to ensure the data is formatted accurately by the XML schema.
 - i. IRS Product Assurance conducted over 14,000 test cases on the first 43 forms included before MeF Release 1 was implemented
 - ii. IRS Product Assurance conducted over 10,000 test cases on the remaining 53 forms before MeF Release 2 was implemented
 - iii. If a defect is identified, a new version of the XML schema is issued to the software developers.
 - h. The IRS contractor performed extensive testing of the XML schemas before the programs were delivered to IRS.
 - i. Every time a change is made to a form that affects the XML schema, the entire process is repeated.
 - j. The MeF programs cannot be implemented until all critical defects are corrected
2. IRS does not review tax preparation software used strictly for preparing paper tax returns. IRS does review and approve all tax preparation software used for preparing electronic returns to ensure it passes the IRS requirements for MeF Assurance Testing (ATS). ATS is briefly explained below:
 - a. IRS issues a publication which includes a series of test tax returns and instructions.
 - b. Software developers use the test scenarios to create test files in XML format.
 - c. The software developer must transmit the XML formatted test tax returns to IRS.

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- d. An IRS tax examiner checks each field to ensure the tax return data was received and displayed correctly on the IRS systems.
 - i. These checks ensure the calculations on the test return match the answers included on the test returns.
 - ii. These checks also ensure the software correctly formats the completed tax return data into XML format that can be successfully transmitted to and received by IRS.
 - e. When the software correctly performs all functions discussed above, IRS approves the software for electronic filing where it may be purchased by taxpayers or return preparers.
 - f. Test returns do not include all forms or schedules that can be part of an actual return.
3. Before taxpayers sign completed tax returns, they most likely view the tax return data printed on a copy of the official IRS form included in tax preparation software. After the return is signed, the software will convert the tax return data into XML format and transmit it to the IRS. After IRS processing, the return data will be displayed internally to IRS employees using “stylesheets” which are identical to the official IRS forms.
4. MeF will require the software to count each byte of the byte of the electronic tax return and include a “Check Sum” or “hash” in the transmission file sent to IRS. When IRS receives the transmission file, one of the first steps will be to count the bytes in the electronic tax return again. IRS will include the incoming hash and IRS computed hash in the acknowledgement file along with the Total Tax and _____ from the accepted return.